

Title: Functions -Day Trips

Brief Overview:

Students will use their knowledge of patterns and number operations by analyzing function tables and graphing them. These tables and grids will help determine which items are the best *deals*. The last lessons are intended to connect the classroom to real life situations.

NCTM Content Standard/National Science Education Standard:

Students will understand patterns, relations, and functions: Represent and analyze patterns and functions using words, tables, and graphs.

Grade/Level:

Appropriate for Grades 4 and 5

Duration/Length:

Three (Approx. 60 Minute) Lessons and Summative Assessment

Student Outcomes:

Students will:

- Complete function tables and find the rule
- Compare information based on several different function tables
- Create multiple coordinate grids using function tables

Materials and Resources:

Lesson 1

- Exploring Growing Patterns (Student Resource 1)
- Cut out pictures of items you are choosing to use (Ex: people, animals, cars, etc.)*This is used in the Launch.
- Laminated piece of light color construction paper (used in teacher facilitated part of lesson)
- Laminated input/output table (used in teacher facilitated part of lesson)
- Pictures of People (Teacher Resource 11)
- Pictures of tickets (Teacher Resource 12)
- Moon Bounce Worksheet (Student Resource 2)
- BCR (Student Resource 3)
- Teacher Resources 1-3 (Answer keys)

Lesson 2

- Math journals
- Calculators (if needed)
- Laminated Input/Output Table
- Student Resource 4
- Student Resource 5
- Student Resource 6
- Student Resource 7
- Teacher Resources 4-7 (Answer Keys)
- Manipulatives (for reteaching piece)
- Different brands of pencils and erasers (for extension piece)

Lesson 3

- Math journals
- Calculators (if needed)
- Student Resources 8a and b
- Student Resources 9a and b
- Student Resources 10a-d—Summative Assessment
- Teacher Resources 8-10 (Answer Keys)
- Function Tables from previous lesson (Student Resource 5 and Student Resource 6)
- Embedded Assessments from Lesson 2

Development/Procedures:

Lesson 1

Pre-Assessment – (Student Resource 1)

Complete “Growing Patterns.” Independently or in a group, ask the students to make a list of vocabulary words that are associated with growing patterns. (**Examples: term, level, grow, sequence**)

Launch - Give two pictures to each student or group of students. Ask the students to discuss the relationships between the two pictures. Have them separate these into two groups on their desk.

Examples: (obtain pictures from magazines, Internet, photos, ClipArt, etc.)

- **Deer vs. Car** – Deer has two legs while a car has four tires; Deer has 2 ears while a car has two/four doors; Deer has two eyes while a car has two headlights, etc.
- **Bike vs. Person** – Bike has two wheels while a person has two legs; Bike has two handles while a person has two arms, etc.

Teacher Facilitation

# of People	# of Tickets

- Put up a laminated blank Input/Output table on the board. Tell the students to imagine that they are going to the fair tomorrow. In order to get into the fair, each student will need a certain amount of tickets.
- Give each student pictures of people. (Teacher Resource 11) Remember to give different students different numbers of people: Example; Give one student a group of four people, another student a group of two people, another student a group of eight people, another student give one person etc.
- Invite one student to come to the board and place their picture of people in the correct column on the function table under the x (Labeled *Number of People* on chart). After they do this you then, use Teacher Resource 12 and put the number of tickets the people would need in order to get into the fair under the y column in the function table (Labeled *Number of Tickets* on the chart).

- Invite several other students to come up and place their picture in the appropriate column. When each child has placed their picture you then put the amount of tickets the people would need. After every few students, ask the children if they notice any patterns. **(For example, if there are three tickets per person, they may say that there are multiples of 3.)** (Hint: Make sure you have used a variety of numbers so that the students can see the pattern. Be sure to not use the student with one person until the end because that will show the rule. Also, stay away from calling on students who have numbers right after or before each other so that they don't just start counting by two's or three's or whatever the rule is.) You want to make them think!!!
- Lastly, ask the students if they can guess the rule. (For example, if the picture has five people and I put fifteen tickets next to the people the rule would be each person needs three tickets to get into the fair).
- As a class, create a sign showing the rule on the laminated piece of construction paper.

Student Application

- Distribute Student Resource 2: *Moon Bounce* *The students may work in pairs on this activity.
- Give the students the following scenario:

- ** Imagine that you are asked to identify a rule for the amount of tickets each person needs to enter the *Moon Bounce* at the fair. On your resource sheet ask the students to extend the function table after they have established the rule. (This is Step 1 on the Student Resource 2.) Answer key is on Teacher Resource 2.
- After they have found the rule ask them to create their own sign displaying how many tickets each person will need to enter the *Moon Bounce*. (Step 2 on their Student Resource 2)

Embedded Assessment

- Ask the students to complete Student Resource 3: BCR that requires completing a function table and explaining how they figured out the rule and why it is correct. Answer key can be found on Teacher Resource 3.

Reteaching/Extension

- For those students who are having difficulty with this you may want to have them draw or sketch each person holding the specified number of tickets so that they can visually see how many tickets each person will need.
- For those students who could use an extension to this lesson you could have them create their own function table and scenario with a rule. After they have created their own table and rule, they can switch with a friend in their class and see if their friend can find the rule.

Lesson 2

Preassessment – Allow the students five minutes to talk about what they learned yesterday. Write the question, “What is a function table?” on the board and allow them time to discuss this question. Then allow them time to brainstorm the vocabulary words that are associated with function tables and ask them to write these words in their math journal. **(Sample responses for “What is a function table?” A function table shows the relationship between two items. A function table is a visual way to show how two items can affect each other. Sample responses for vocabulary: rule, item, relationship, growing, decreasing, pattern, compare, input, output)**

Launch- Give students Student Resource 4

Provide the students with this scenario. (Allow the students to work with a partner to find the answer.)

- School is starting and you need supplies. First on your list are pencils. You want to find the best deal so you check three different stores that sell pencils. This is what you find:

Target sells pencils in a pack of 10 for \$1.00.

Wal-Mart sells pencils in a pack of 20 for \$2.20.

CVS sells pencils in a pack of 40 for \$3.20.

- Ask the students: How would we find the cost for a single pencil?

(Divide, draw a picture)

- Using your division skills, which store has the best deal on pencils?

***CVS (See Teacher Resource 4)**

Use the first statement about Target to demonstrate how to find the cost of a single pencil. Explain that to find the cost of a single pencil, we need to divide the total cost for the pack by the number of pencils in the pack.. So for Target, we would do \$1.00-10.

****If necessary, show students how to find the cost of an individual pencil using a calculator.**

Teacher Facilitation

- Review yesterday's lesson on "The Day at the Fair". Introduce today's lesson on "Shopping for School Supplies" and have students note the similarities between the two lessons **(Sample responses: In both lessons, we're finding the relationship between two items. We're looking at the increases between the two factors involved)**. In today's lesson we are continuing with the idea that we are shopping for school supplies. We already have our pencils from CVS, and now we need loose-leaf paper. Provide students with this scenario found on Student Resource 5. ****Be sure to save this as it will be used in Lesson 3.**

***August is already here and you need school supplies. Next on our list is paper. You want to find the best deal so you check two different stores that sell loose-leaf paper. This is what you find:**

Dollar General:

Has a pack of 50 pages for \$1.00

Has a pack of 150 pages for \$3.00

Has a pack of 250 pages for \$5.00

Has a pack of 500 pages for? (To be determined)

Walgreens:

Has a pack of 300 pages for \$3.00

Has a pack of 500 pages for \$5.00

Has a pack of 750 pages for \$7.50

Has a pack of 100 pages for? (To be determined)

Using the above information, which store has the **best** buy?

- Display a transparency of Student Resource 5. Tell the students that in order to find out the answer to our question we need to create a function table and find the rules for each store. Answer key can be found on Teacher Resource 5.
- Allow students to come up and write the prices and number of pages into the function table. (Make sure they are inserting these numbers into the appropriate columns). **Ask students if they see any relationships between the number of pages in a pack and the price.**
- After the function table is completed, ask the students if they can determine the rule for each store (If needed, provide students with calculators).
- Once they have found the rule then, as a class, determine what the next price will be. This is simply extending the function table above. Ask the students to predict what store has the best deal.
- After they have extended the table and found the missing price for each store, ask them if they can identify anything in the table that might help them find the answer to the question. **(For example, Dollar General has 500 pages for \$10.00 and Walgreen's has 500 pages for \$5.00. Now ask the students if their predictions were correct and why or why not?)**
- Lastly, discuss the importance of a function table and how it can help you to determine the best deal in a given situation. **(For example, a function table is important because it can help us identify relationships between items. A function table can visually show us the increase and decrease between prices. A function table can help us compare prices so we know which is the better buy.)**

Student Application

- Distribute Student Resource 6. Ask them to read the following scenario and answer the questions. They will need to find the rule by putting the given information into a function table. They will also need to extend the function table and determine which brand has the better deal. Answer key is on Teacher Resource 6.
- Again, allow students to use calculators if needed.
- **RoseArt is the better deal at 9¢ a crayon. Crayola is 10¢ each. (See Teacher Resource 6)**
- Allow students enough time to find the rule and answer. Discuss strategies that they used to find their answers. Clarify any questions that the students have before going on to the assessment.

Embedded Assessment

- Give each student a copy of Student Resource 7. This assessment will require students to determine which pencil company/brand offers the lowest price for a single pencil. They must use a function table to

determine the rule and extend the rule twice to show understanding. Lastly, they will need to explain how they found the rule and why they are correct. Answer key is on Teacher Resource 7.

Reteaching/Extension

- For those students who are having difficulty, it may help to use manipulatives with these students to demonstrate division and utilize them as a visual.
- For those students who finish early or need an extension, instruct students to compare the sharpening and erasing qualities of each brand. Ask students if all brands perform the same in both areas. (**Hint: PaperMate sharpens well but does not erase well while Lovett erases well but does not sharpen well**).

Lesson 3

Preassessment –Brainstorm a list of tools or graphic aids you can use to compare two items. (**Examples: Venn Diagrams, Compare/Contrast Organizers, Graphic Organizers, T-Chart, Graphs, make a list**)

Launch – In your math journals, create a three circle Venn Diagram to compare the three brands of pencils from Lesson Two's embedded assessment. Students will share these diagrams with their classmates when they are finished. (**Students can compare attributes and properties as well as cost per pencil.**)

****Please note:** Fourth grade teachers may want to only have students compare two brands of pencils.

Teacher Facilitation

- Introduce graphing by asking students: What are ways we can represent data in the real world?(**Possible answers: graphs, graphic organizers, pictures**)
- Ask students to take out their function tables from Lesson 2. (Student Resource 5)
- Review with students' important graphing vocabulary necessary for this lesson. (**plot, graphing, x and y-axis, ordered pairs, coordinate grid**)
- Ask students to look at the function table from Lesson 2: (Student Resource 5). Discuss the rule and the relationship you found between the two stores. (**Possible responses: the rule for Dollar General was that pages were 2¢ per page, pages at Walgreens were 1¢ per page. Walgreens is cheaper than Dollar General**).

- As a class you will create a graph from the information on Lesson 2's function table. First, plot the information from the Dollar General Store. Next, plot the information from Walgreens. Students will do this on Student Resource 8.
- *Model on the board or overhead with the data from Dollar General so that the students can see your graph. Show students how to take the information in a function table and make it into an ordered pair (**The input is the X value and the output is the Y value. An ordered pair is written as (X,Y). The X value is plotted using the X-axis. The Y value is plotted using the Y-axis.**) Students will follow your directions and use Student Resource 8a to plot their coordinates. Make sure to connect your points so that the students can see the gradual increase and/or decrease. Lead the class in a discussion about each graph after completing each graph. **Possible questions: What kind of line do you see? (a straight line); What do you think the Y value for 550 would be? (\$11.00)**
- *Using Student Resource 8b, as a class, plot the data from the Walgreens function table (See Teacher Resource 8).

Student Application

- Ask students to locate Student Resource 6.
- Independently, ask students to graph each brand of crayons using the function tables on Student Resource 6. They will graph the RoseArt data on Student Resource 9a, and the Crayola data on Student Resource 9b. Before they begin plotting their coordinates, ask them to predict what they think the two graphs will look like using information from their function tables. **Sample questions: What kind of line do you predict the graph will show? (a straight line) What direction will the line move? (Up and to the right)**
- After they have completed their graphs ask them to go back to their predictions and see if they were correct in their assumptions. Have them note their findings in their math journals (See Teacher Resource 9).

Embedded Assessment – See Summative Assessment

Reteaching/Extension

- If students have extra time or they need extra practice, they can go back to previous lessons and plot/graph coordinates using the information from other function tables.

Summative Assessment:

- Have students complete Student Resources 10 a-d.

- This will determine student progress toward understanding the concepts developed in the lessons.
- Answer key: Teacher Resources 10 a-d

Authors:

Samantha Yuhanick
Reisterstown Elementary School
Baltimore County Public Schools

Andrea Lauber
Bedford Elementary School
Baltimore County Public Schools

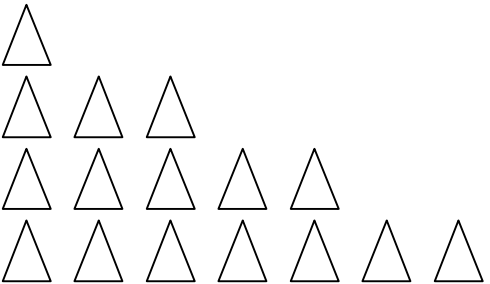
Ernest Pozzi
Bancroft Elementary School
District of Columbia Public Schools

Growing Patterns

Directions: Describe how the following patterns grow and show the next item in the sequence.

1) 3, 7, 11, 15, 19 _____


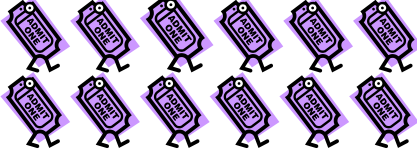



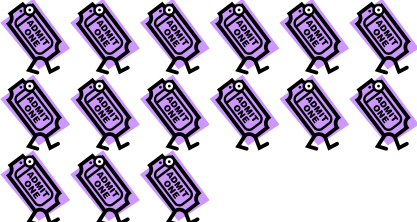


2) >
 >>
 >>>
 >>>>

3)  _____

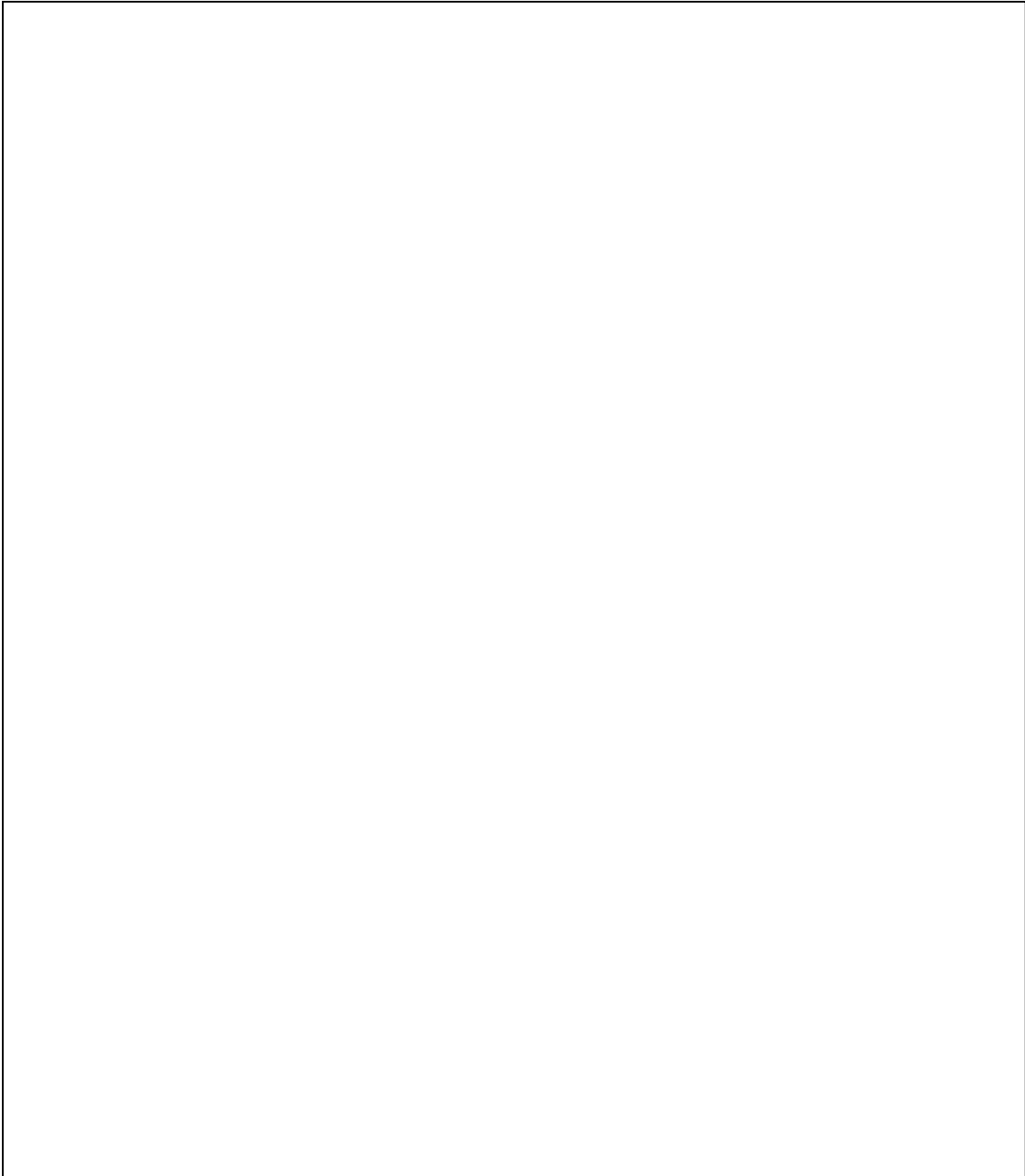
4) 35, 28, 21, 14, 7 _____

Moon Bounce

Step 1 Directions: Draw tickets to complete the function table.

Input Number of People	Output Number of Tickets needed
	
	
	
	
	

Step 2 Directions: Create a sign that demonstrates the rule.

A large, empty rectangular box with a thin black border, intended for a student to draw or write a sign that demonstrates a rule.

Hot Dog!

There is a hot dog stand at the fair.

Step A.

Complete the chart to find how much was spent.

Input # of Hotdogs	Output Cost (in dollars)
3	\$1.50
7	\$3.50
2	\$1.00
5	\$
10	\$

Step B.

Explain how you determined your answer.

Use what you know about function tables in your explanation.

Use words, numbers, and/or symbols in your explanation.

Name: _____ Date: _____

Comparing Pencils

School is starting and you need supplies. First on your list are pencils. You want to find the best deal so you check three different stores that sell pencils. This is what you find:

Target sells pencils in a pack of 10 for \$1.00.

Wal-Mart sells pencils in a pack of 20 for \$2.20.

CVS sells pencils in a pack of 40 for \$3.20.

Using your division skills and working with a partner, which store has the best deal on pencils? _____

Show your work below.

Comparing Paper

August is already here and you need school supplies. Next on our list is paper. You want to find the best deal, so you check two different stores that sell loose-leaf paper. This is what you find:

Dollar General		Walgreens	
Pages in a Pack	Price	Pages in a Pack	Price
50	\$1.00	300	\$3.00
150	\$3.00	500	\$5.00
250	\$5.00	750	\$7.50
500		1,000	

1) Identify the rule for each function table:

Dollar General: _____

Walgreens: _____

Workspace:

2) Complete the tables.

3) Which store has the better deal on paper? How do you know?



Comparing Colored Pencils

Next on our list is colored pencils. Your mom won't drive you to a bunch of stores anymore, so now you have to choose between two brands: RoseArt and Crayola. Use the function tables below to help you decide.

RoseArt		Crayola	
# of Pencils	Price	# of Pencils	Price
6	\$0.54	10	\$1.00
8	\$0.72	20	\$2.00
10	\$0.90	35	\$3.50
12	\$1.08	40	\$4.00
30		50	

Some tips:

- First find the rule for each brand.
- Then complete the tables.

Which brand is the least expensive per pencil? How do you know?

Comparing Pencil Brands

At the beginning of our day, we compared where we could buy pencils for school. Now that we have decided where to buy our pencils, we need to decide which brand to buy.

Lovett		PaperMate		Ticonderoga	
# of Pencils	Price	# of Pencils	Price	# of Pencils	Price
12	48¢	13	\$1.04	3	30¢
24	96¢	27	\$2.16	9	90¢
36	\$1.44	43	\$3.44	13	\$1.30
48	\$1.92	67	\$5.26	19	\$1.90
60		73		34	
90		90		90	

1. Find the rule for each brand.

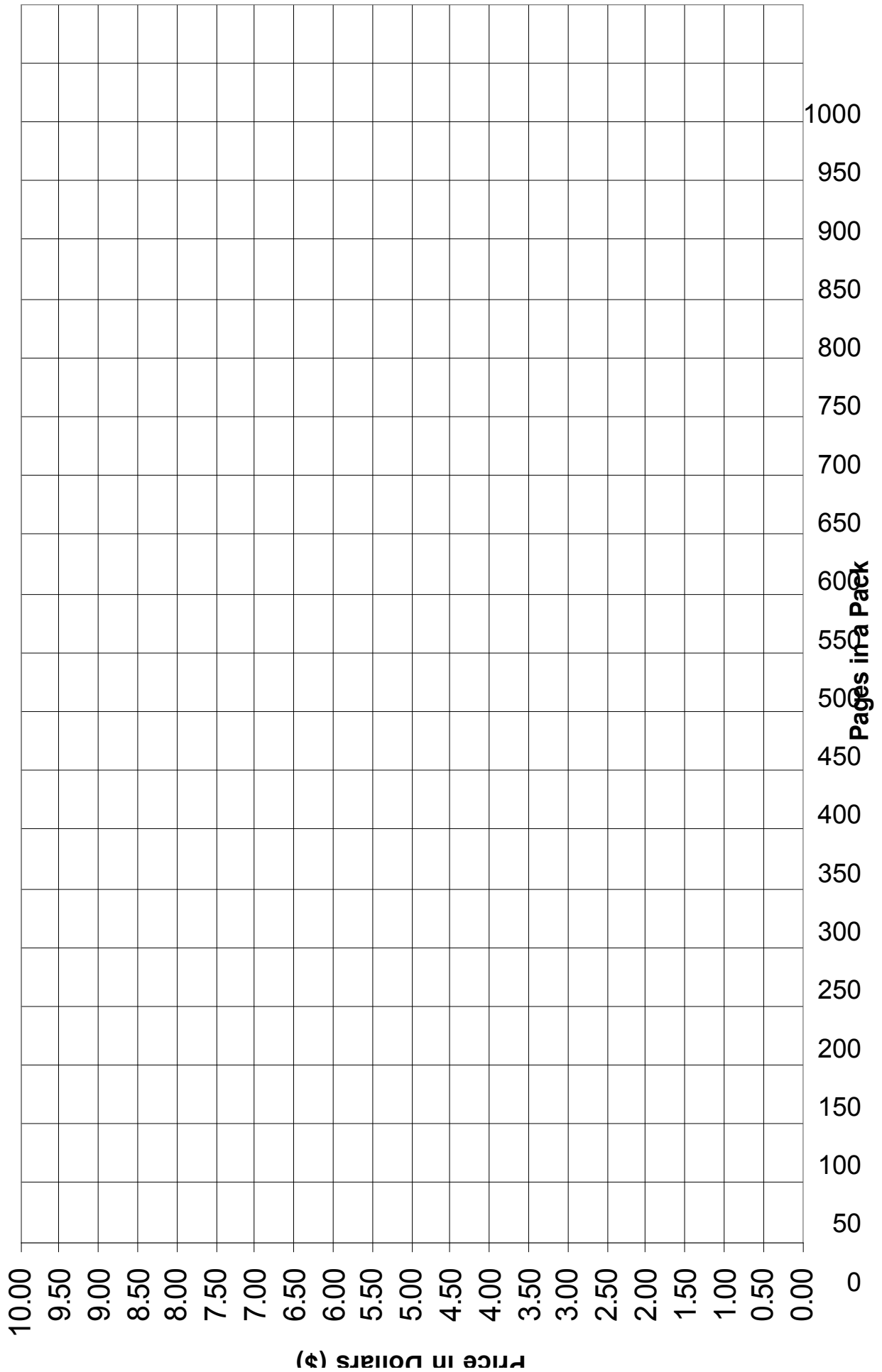
Lovett: _____ PaperMate: _____ Ticonderoga: _____

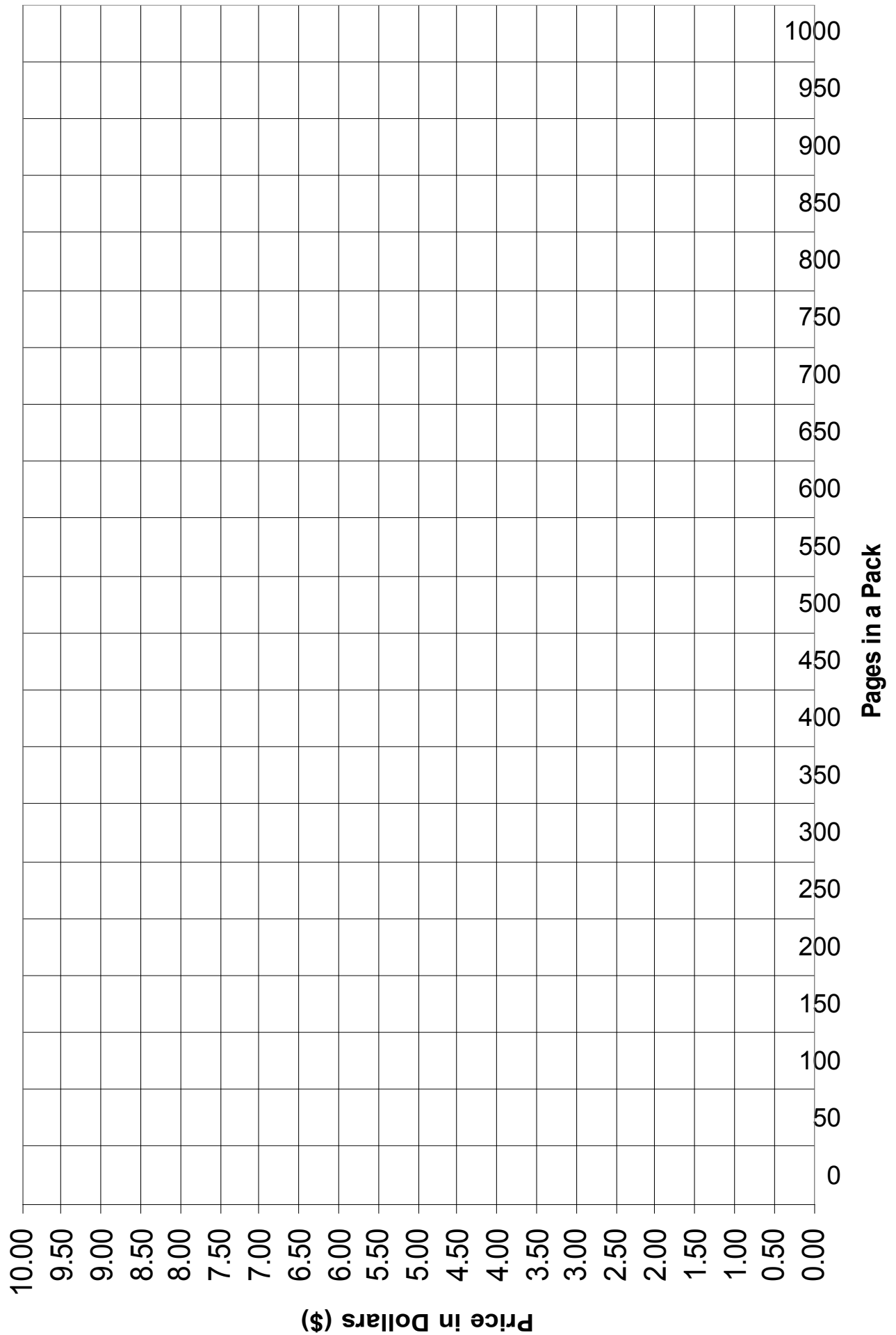
2. Complete the tables.

3. Which brand offers the lowest price for a single pencil? How do you know?

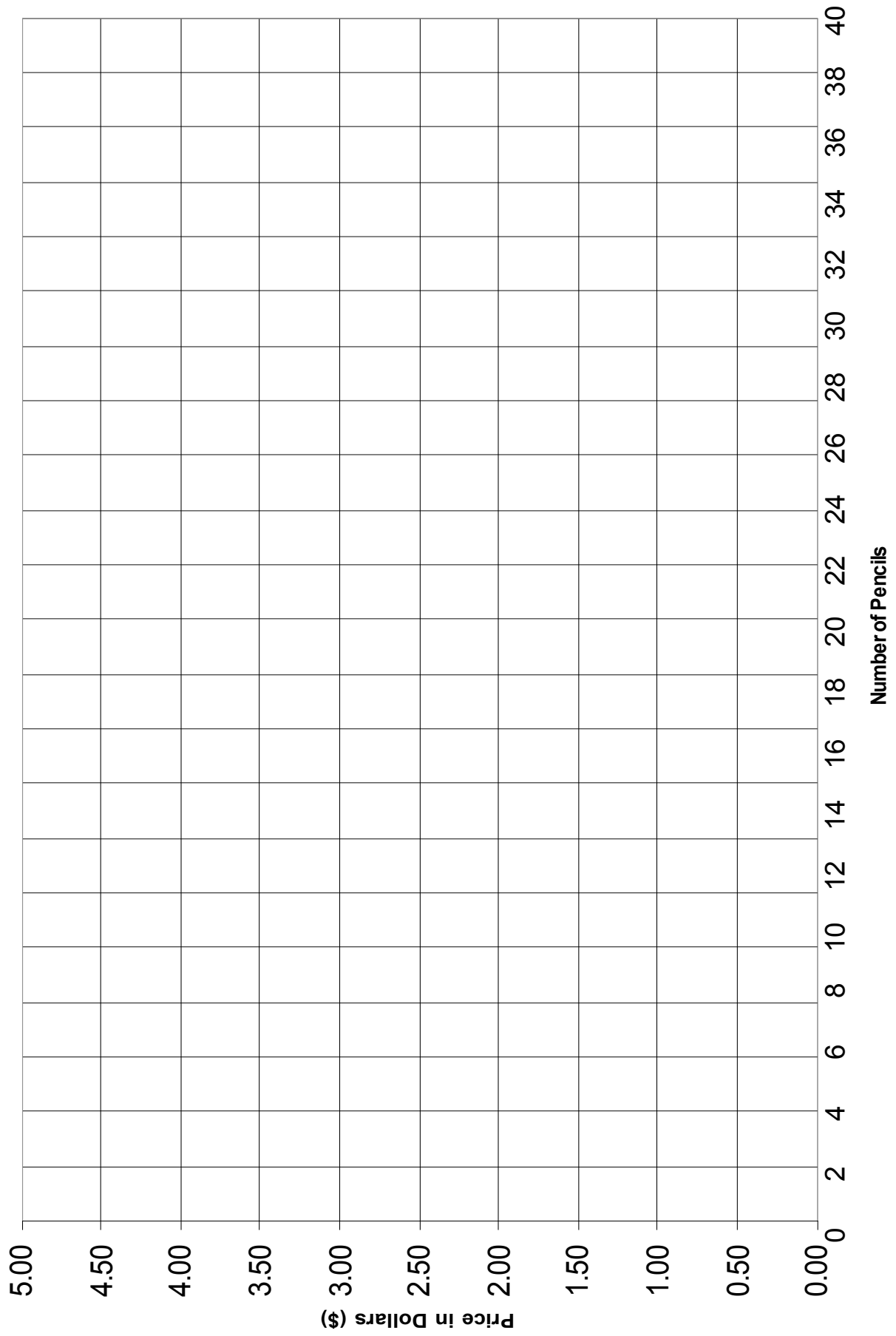
4. Which company has the highest price per pencil? How do you know?

Name: _____ Date: _____

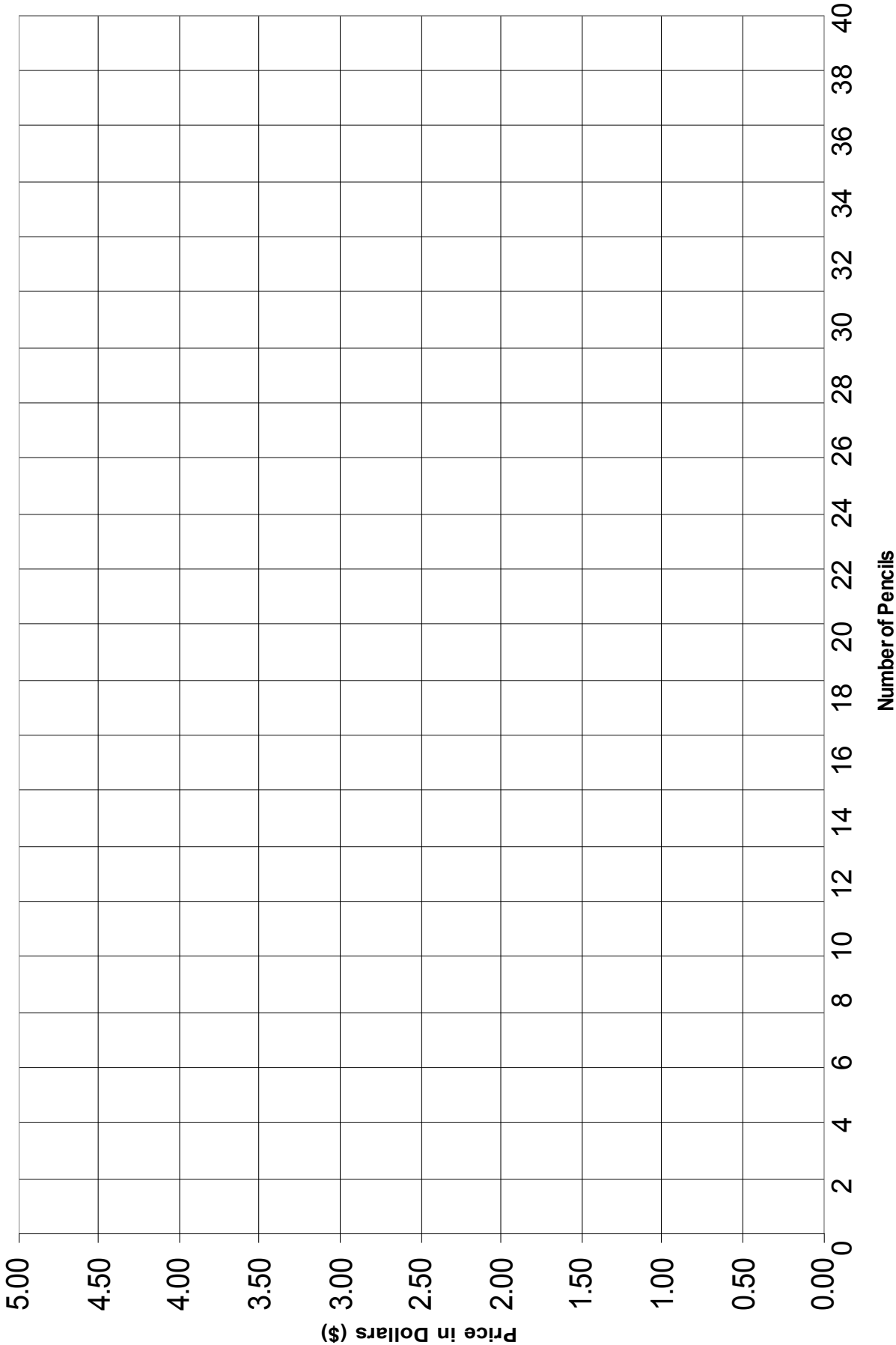




Comparing Colored Pencils - Rose Art



Comparing Colored Pencils - Crayola



Day Trips
Summative Assessment

Part A. Complete the following function table and write the rule:

AMC Theatre Admission	
Number of People	Total Amount Paid for Tickets
5	\$40.00
8	\$64.00
3	\$24.00
9	
13	

Rule: _____

Part B. AMC Theatres charge \$4.50 for medium popcorn. Complete the following function table to show how much it would cost for 5, 8, 3, 9, and 13 people to each get their own medium popcorn. Be sure to include a title for the table and headers for the columns

Title _____

Header 1: _____	Header 2: _____

Rule: _____

Part C. AMC Theatres offers two different types of candy: Raisinettes and licorice. Complete the function tables below and find the rule for each.

Cost of Raisinettes		Cost of Licorice	
Number of People	Cost	Number of People	Cost
5	\$10.00	5	\$6.25
8	\$16.00	8	\$10.00
3	\$ 6.00	3	\$ 3.75
9		9	
13		13	

Rule: _____

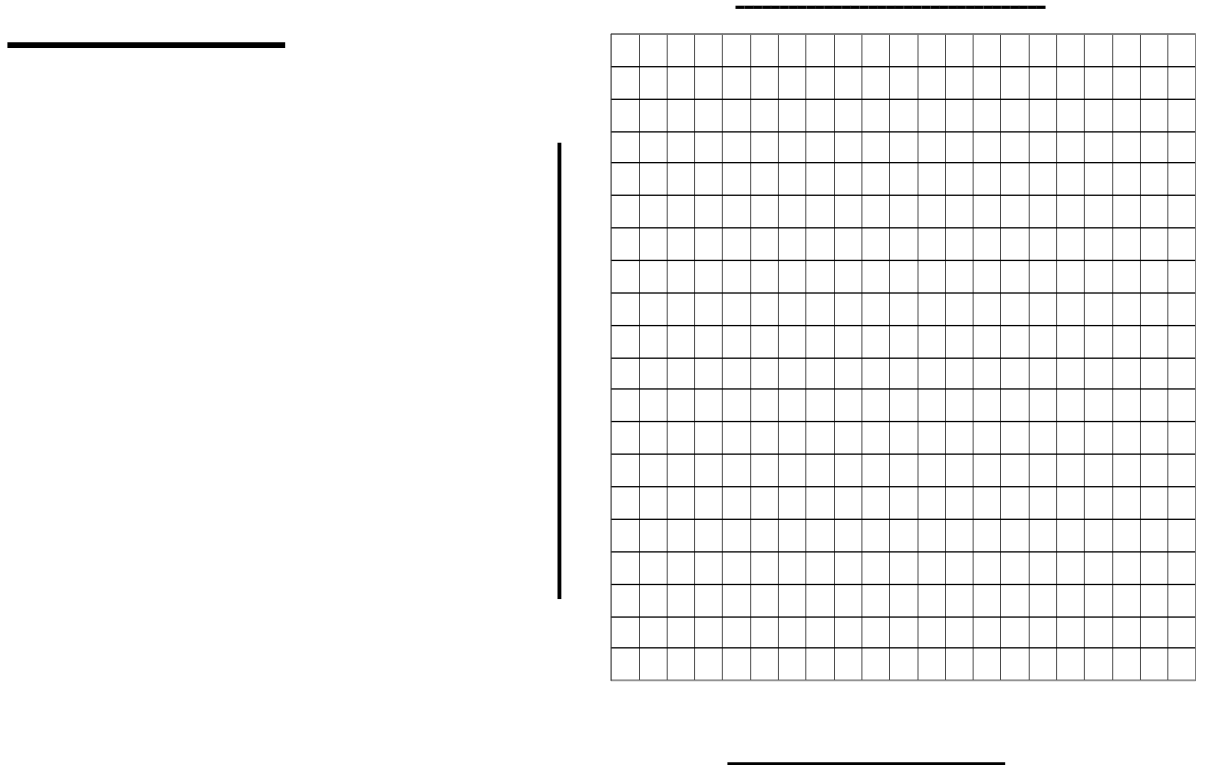
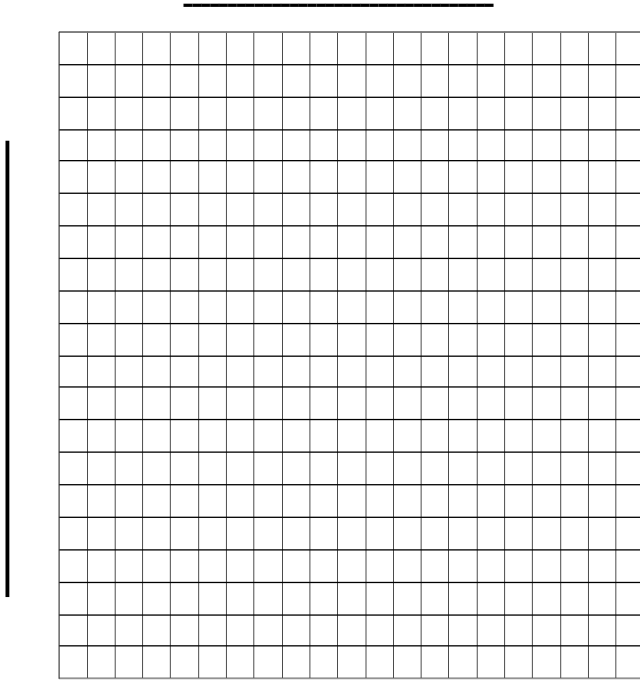
Rule: _____

Which type of candy is the best value? _____

How do you know which candy is the best value? _____

Part D.

Choose 2 of the above function tables and plot the information on the coordinate grids below. **NOTE: Be sure to correctly label and title your grids.**



Part E. Using the vocabulary we have learned in this unit:

1. Describe or show HOW function tables can help us find a rule:

2. Explain or show HOW we can use function tables in real life to help us make comparisons between similar products.

EXTRA CREDIT

Two people are going to the AMC Movie Theatre. Use the information in the above function tables to calculate the total cost for their admission, two medium popcorns, a box of Raisinettes, and a bag of licorice. How much would they spend?

Student Name _____

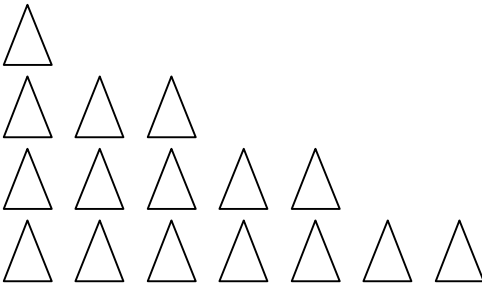
Date _____

Growing Patterns

Directions: Describe how the following patterns grow and show the next item in the sequence.

1) 3, 7, 11, 15, 19 Plus 4, 23

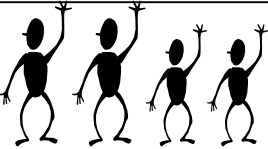
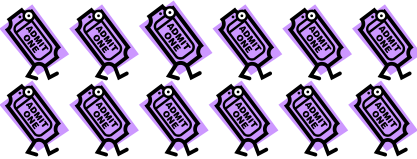
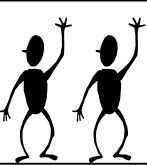


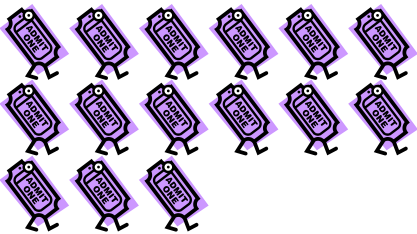
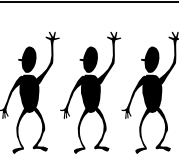
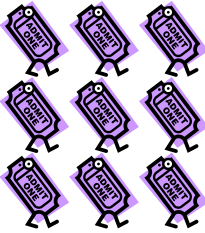
2) >
 >> Plus 1, >>>>
 >>>
 >>>>

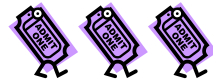
3)  Plus 2, 9 triangles

4) 35, 28, 21, 14, 7 Minus 7, 0

Moon Bounce

Step 1 Directions: Draw tickets to complete the function table.

Input Number of People	Output Number of Tickets needed
	
	
	
	



Teacher Resource 2b

Step 2 Directions: Create a sign that demonstrates the rule.

Should show 3 tickets per person.

Hot Dog!

There is a hot dog stand at the fair.

Step A.

Complete the chart to find how much was spent.

Input # of Hotdogs	Output Cost (in dollars)
3	\$1.50
7	\$3.50
2	\$1.00
5	\$2.50
11	\$5.50

Step B.

Explain how you determined your answer.

Use what you know about function tables in your explanation.

Use words, numbers, and/or symbols in your explanation.

Sample 1: Each hot dog is \$0.50 because $\$1.50 \div 3 = \0.50 and $\$3.50 \div 7 = \0.50 and $\$1.00 \div 2 = \0.50 . So $5 \text{ hotdogs} \times \$0.50 = \$2.50$ and $10 \text{ hotdogs} \times \$0.50 = \$5.00$

*Sample 2: $\$1.50 \div 3 = \0.50
 $\$3.50 \div 7 = \0.50
 $\$1.00 \div 2 = \0.50
 So $5 \times \$0.50 = \2.50 and $10 \times \$0.50 = \5.00*

Name: _____ Date: _____

Comparing Pencils

School is starting and you need supplies. First on your list are pencils. You want to find the best deal so you check three different stores that sell pencils. This is what you find:

Target sells pencils in a pack of 10 for \$1.00.

Wal-Mart sells pencils in a pack of 20 for \$2.20.

CVS sells pencils in a pack of 40 for \$3.20.

Using your division skills and working with a partner, which store has the best deal on pencils? CVS

Show your work below.

(Sample work strategy shown)

Target: $\$1.00 \div 10 = 10 \text{ cents per pencil}$

Wal-Mart: $\$2.20 \div 20 = 11 \text{ cents per pencil}$

CVS: $\$3.20 \div 40 = 8 \text{ cents per pencil}$

Comparing Paper

August is already here and you need school supplies. Next on our list is paper. You want to find the best deal, so you check two different stores that sell loose-leaf paper. This is what you find:

Dollar General		Walgreens	
Pages in a Pack	Price	Pages in a Pack	Price
50	\$1.00	300	\$3.00
150	\$3.00	500	\$5.00
250	\$5.00	750	\$7.50
500	<u>\$10.00</u>	1,000	<u>\$10.00</u>

3) Identify the rule for each function table:

Dollar General: 2 ¢ per page Walgreens: 1 ¢ per page

Workspace:

Dollar General: $\$1.00 \div 50 = 2¢$, $\$3.00 \div 150 = 2¢$, $\$5.00 \div 250 = 2¢$
 So $500 \times 2¢ = \$10.00$

Walgreens: $\$3.00 \div 300 = 1¢$, $\$5.00 \div 500 = 1¢$, $\$7.50 \div 750 = 1¢$
 So $1000 \times 1¢ = \$10.00$

4) Complete the tables.

3) Which store has the better deal on paper? How do you know?

Walgreens has the better deal on paper because their paper only costs 1¢ per page and Dollar General's paper costs 2¢ per page.



Comparing Colored Pencils

Next on our list is colored pencils. Your mom won't drive you to a bunch of stores anymore, so now you have to choose between two brands: RoseArt and Crayola. Use the function tables below to help you decide.

RoseArt		Crayola	
# of Pencils	Price	# of Pencils	Price
6	\$0.54	10	\$1.00
8	\$0.72	20	\$2.00
10	\$0.90	35	\$3.50
12	\$1.08	40	\$4.00
30	<u>\$2.70</u>	50	<u>\$5.00</u>

Some tips:

- First find the rule for each brand.
- Then complete the tables.

Which brand is the least expensive per pencil? How do you know?

The RoseArt brand is the least expensive. Their colored pencils cost 9¢ each and Crayola's cost 10¢ each.

Comparing Pencil Brands

At the beginning of our day, we compared where we could buy pencils for school. Now that we have decided where to buy our pencils, we need to decide which brand to buy.

Lovett		PaperMate		Ticonderoga	
# of Pencils	Price	# of Pencils	Price	# of Pencils	Price
12	48¢	13	\$1.04	3	30¢
24	96¢	27	\$2.16	9	90¢
36	\$1.44	43	\$3.44	13	\$1.30
48	\$1.92	67	\$5.36	19	\$1.90
60	<u>\$2.40</u>	73	<u>\$5.84</u>	34	<u>\$3.40</u>
90	<u>\$3.60</u>	90	<u>\$7.20</u>	90	<u>\$9.00</u>

1. Find the rule for each brand.

Lovett: 4¢/pencil PaperMate: 8¢/pencil Ticonderoga: 10¢/pencil

2. Complete the tables.

3. Which brand offers the lowest price for a single pencil? How do you know?

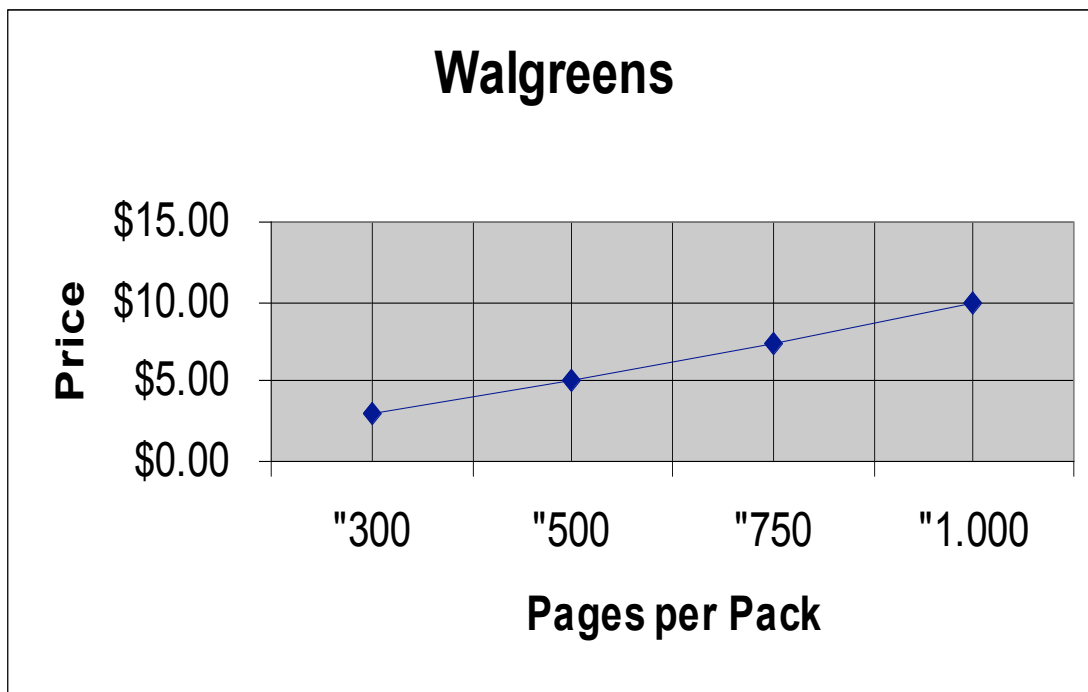
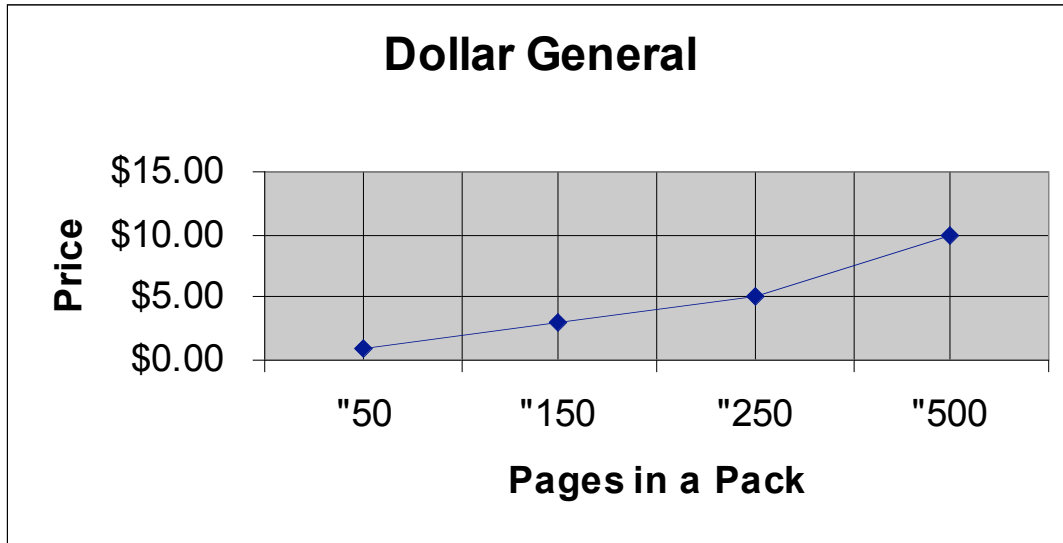
Lovett offers the lowest price per pencil because each price ÷ the number of pencils equaled 4.

4. Which company has the highest price per pencil? How do you know?

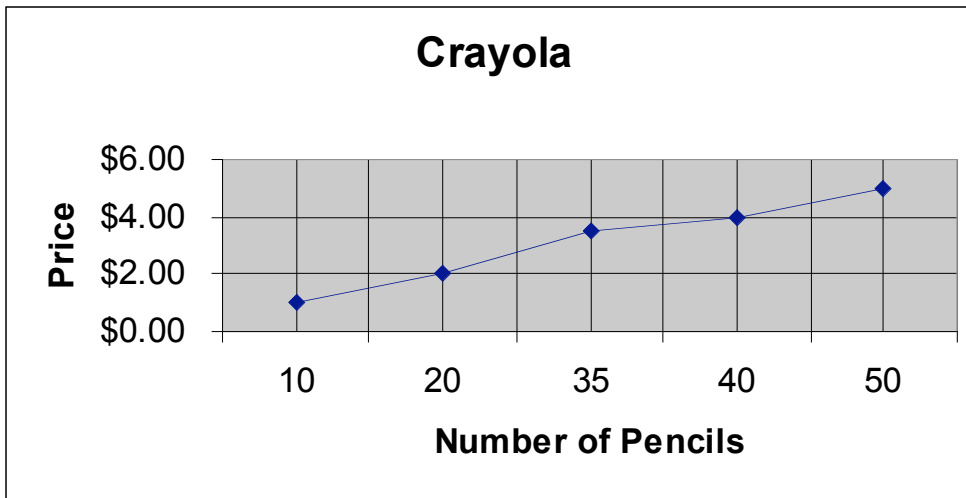
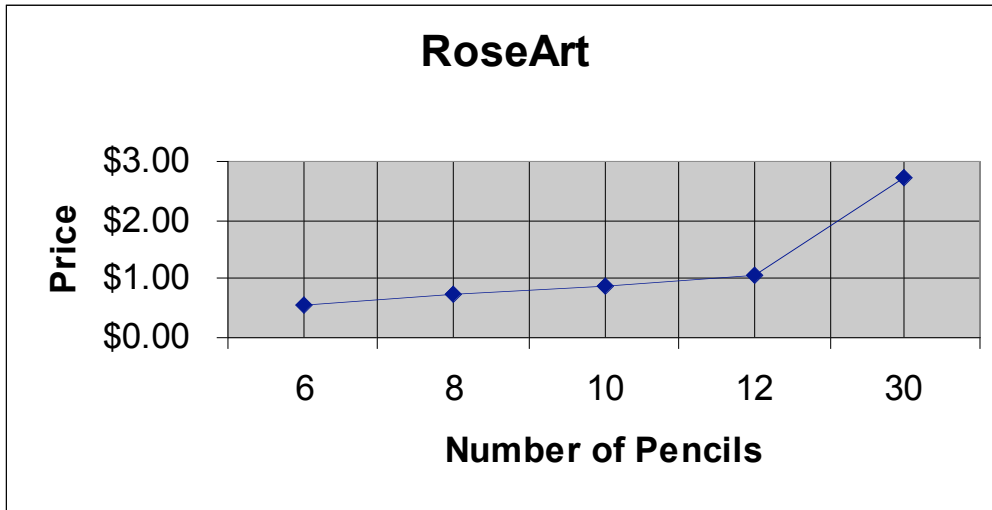
Ticonderoga has the highest price per pencil because each price ÷ the number of pencils = 10.

Name: _____ Date: _____

**These are just examples, student work may vary slightly, but should show similar trends.



**These are just examples, student work may vary slightly, but should show similar trends.



Day Trips
Summative Assessment

Part A. Complete the following function table and write the rule:

AMC Theatre Admission	
Number of People	Total Amount Paid for Tickets
5	\$40.00
8	\$64.00
3	\$24.00
9	\$72.00
13	\$104.00

Rule: \$8.00/Ticket

Part B. AMC Theatres charge \$4.50 for medium popcorn. Complete the following function table to show how much it would cost for 5, 8, 3, 9, and 13 people to each get their own medium popcorn. Be sure to include a title for the table and headers for the columns

Title AMC Popcorn

Header 1: <u># of People</u>	Header 2: <u>Cost of Admission</u>
5	\$22.50
8	\$36.00
3	\$13.50
9	\$40.50
13	\$58.50

Rule: \$4.50/Medium Popcorn

Part C. AMC Theatres offers two different types of candy: Raisinettes and licorice. Complete the function tables below and find the rule for each.

Cost of Raisinettes

Number of People	Cost
5	\$10.00
8	\$16.00
3	\$ 6.00
9	\$18.00
13	\$26.00

Cost of Licorice

Number of People	Cost
5	\$6.25
8	\$10.00
3	\$ 3.75
9	\$11.25
13	\$16.25

Rule: **\$2.00/box**

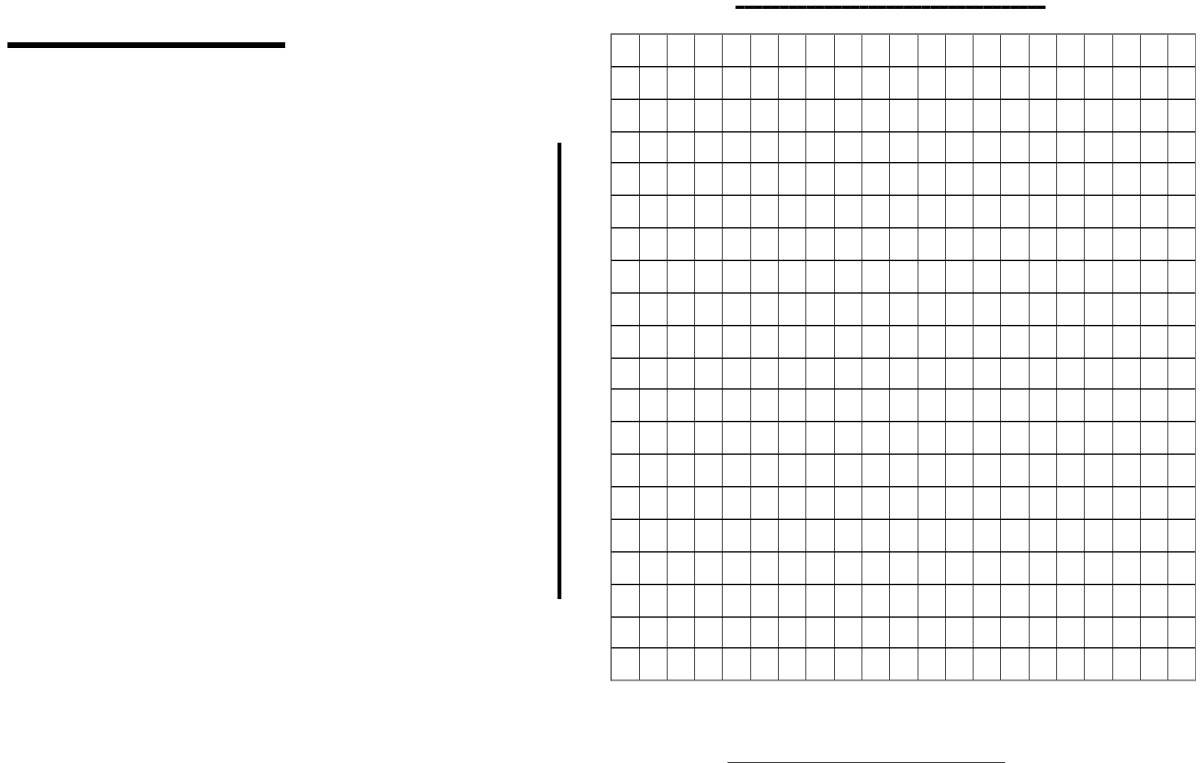
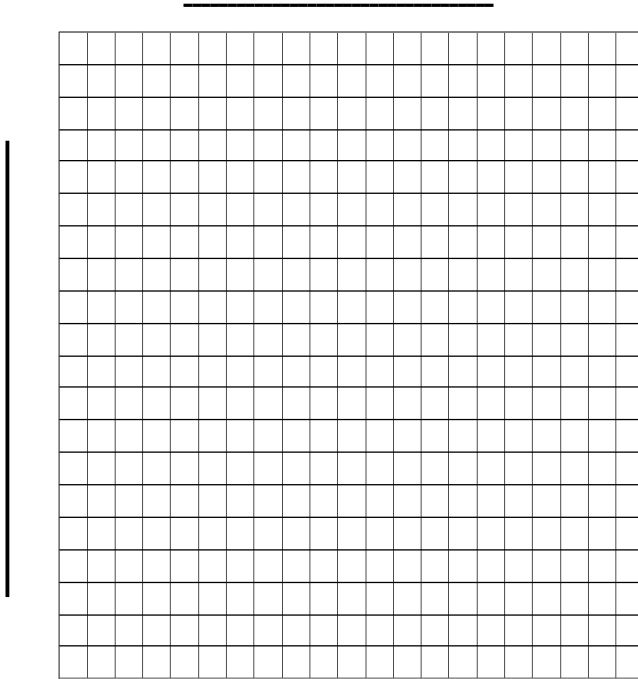
Rule: **\$1.25/bag**

Which type of candy is the best value? **Licorice**

How do you know which candy is the best value? **Licorice costs 75¢ less than Rasinettes**

Part D.

Choose 2 of the above function tables and plot the information on the coordinate grids below. **NOTE: Be sure to correctly label and title your grids.** *Answers may vary.*



Part E. Using the vocabulary we have learned in this unit:

1. Describe or show HOW function tables can help us find a rule:

Function tables help us find patterns and relationships between items.

If $5 \times \square = 10$ AND $4 \times \square = 8$ AND $3 \times \square = 6$
THEN $10 \times \square = 20$

2. Explain or show HOW we can use function tables in real life to help us make comparisons between similar products.

We can find which items cost less or have better value

If one pencil costs \$1.00 and the other pencil costs \$2.00 I can save money buying the \$1.00 pencil.

EXTRA CREDIT

Two people are going to the AMC Movie Theatre. Use the information in the above function tables to calculate the total cost for their admission, two medium popcorns, a box of Raisinettes, and a bag of licorice. How much would they spend?

Admission	$8.00 \times 2 =$	\$16.00
Popcorn	$4.50 \times 2 =$	\$ 9.00
Raisinettes		\$ 2.00
Licorice		<u>\$ 1.25</u>

Answer: \$28.25

Student Name _____

Date _____

